

## SWITCHING SYSTEM NO. 400

### TOUCH-TONE CALLING

#### OPERATION TESTS

##### 1. GENERAL

**1.01** This section provides a method of testing the operation of the C1 (junior) and A3 (senior) TOUCH-TONE calling receivers. The same test is applicable to either receiver.

**1.02** When testing the operation of the A3 receiver, the operation of its associated TOUCH-TONE calling applique circuit is also tested.

**1.03** This test checks that relays in TOUCH-TONE calling receivers and applique circuits operate corresponding to TOUCH-TONE signals.

*Caution: During the period of this test the receiver and register under test will not be available for customer use.*

**1.04** Register 0 is located in slide 2 on mounting plates 7, 8, and 9.

**1.05** Register 1 is located in slide 2 on mounting plates 11, 12, and 13.

##### 2. APPARATUS REQUIRED

(a) TOUCH-TONE telephone set equipped with a 310 plug.

(b) KS-16751, List 1 indicator.

##### 3. METHOD

STEP	ACTION	VERIFICATION
1	In slide 2 — When register to be tested is idle (ON relay normal) — Insert plug of TOUCH-TONE telephone into TST jack.	At register under test — RT lamp lights.
2	Block PU relay nonoperated.	
3	Connect KS-16751, List 1 Indicator to TD1-5 relay and -48 volts.	
4	At TOUCH-TONE telephone set — Remove handset from switch hook.	Switching System No. 400 dial tone heard.

STEP	ACTION	VERIFICATION
5	TOUCH-TONE dial digit 1.  <i>Note:</i> When dialing tens digits for assigned numbers, indicator lamp will remain lighted only as long as TOUCH-TONE button is depressed. When dialing tens digits for unassigned numbers, indicator lamp will remain lighted until disconnect.	<i>Q Option</i> — Busy tone heard (unassigned number). At register under test — Lamp 0 on indicator lights and remains lighted.  <i>R Option</i> (MD) — Dial tone removed. At register under test — Lamp 0 on indicator lights and remains lighted only as long as TOUCH-TONE dial button is depressed (applies to tens digit 1 only).
6	At TOUCH-TONE telephone set — Momentarily operate switch hook.	Dial tone heard. At register under test — Lamp 0 on indicator extinguished.
7	Repeat Steps 5 and 6 for digits to be tested per Table A.	Dial tone removed for assigned numbers. Busy tone heard for unassigned numbers. At register under test — Indicator lamps light for digits dialed as shown in Table A.

TABLE A

DIGIT DIALED AT "TOUCH-TONE" SET	LAMP LIGHTED ON KS-16751 LIST 1 INDICATOR
2	1
3	2
4	4
5	7

8	At register under test — Disconnect indicator from TD1-5 relay.	
9	Connect indicator to TD6-0 relay.	
10	Repeat Steps 5 and 6 for digits to be tested per Table B.	Dial tone removed for assigned numbers. Busy tone heard for unassigned numbers. At register under test — Indicator lamps light for digits dialed as shown in Table B.

TABLE B

DIGIT DIALED AT "TOUCH-TONE" SET	LAMP LIGHTED ON KS-16751 LIST 1 INDICATOR
6	0
7	1
8	2
9	4
0	7

STEP	ACTION	VERIFICATION
11	At register under test — Disconnect indicator from TD6-0 relay.	
12	Connect indicator to UD1-5 relay.	
13	At TOUCH-TONE telephone set — Remove handset from switch hook.	Switching System No. 400 dial tone heard.
14	At TOUCH-TONE telephone set — Dial tens digit 2 and units digit 1.  <i>Note:</i> When dialing units digits indicator lamp will remain lighted until disconnect.	Switching System No. 400 dial tone removed. At register under test — Lamp 0 on indicator lights and remains lighted when units digit 1 is dialed.
15	At TOUCH-TONE telephone set — Momentarily operate switch hook.	Switching System No. 400 dial tone heard. At register under test — Lamp 0 on indicator extinguished.
16	Repeat Steps 13 and 14 for digits to be tested per Table C.	Same as Steps 13 and 14 except for lamps shown in Table C.

TABLE C

DIGITS DIALED AT "TOUCH-TONE" SET	LAMP LIGHTED ON KS-16751 LIST 1 INDICATOR
22	1
23	2
24	4
25	5

17	At register under test — Disconnect indicator from UD1-5 relay.	
18	Connect indicator to UD6-0 relay	
19	Repeat Steps 13 and 14 for digits to be tested per Table D.	Same as Steps 13 and 14, except for lamps shown in Table D.

TABLE D

DIGITS DIALED AT "TOUCH-TONE" SET	LAMP LIGHTED ON KS-16751 LIST 1 INDICATOR
26	0
27	1
28	2
29	4
20	7

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
20	At TOUCH-TONE telephone set — Replace handset on switch hook.	
21	At register under test — Disconnect indicator from UD6-0 relay and —48 volts.	
22	Remove blocking tool from PU relay.	
23	Remove plug of TOUCH-TONE telephone set from TST jack.	RT lamp extinguished.